

Serial No. 10/762,502
Docket No. OSP-15514

REMARKS

Claims 3-4 and 7-15, all the claims presently pending in the application, stand rejected under 35 U.S.C. § 102(b) as being anticipated by Soichi (JP 09-015560).

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

This rejection based on Soichi is respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

The claimed invention, as exemplarily described by claim 3, is directed to a liquid crystal display device. Pixels equipped with a liquid crystal cell and a switch element, are arranged at positions where scan lines and data lines intersect. A data line drive circuit supplies from the data line and the switch element to the liquid crystal cell a write signal corresponding with image data. A control circuit inverts a polarity of the write signal after every plurality of scan lines.

A scan line drive circuit supplies a drive signal to the scan lines and switches the switch elements ON and OFF, while maintaining a constant horizontal scanning period, so that of the plurality of scan lines to which is supplied a write signal of a same polarity, in the following scan lines other than those scan lines where the polarity of the write signal is inverted, the drive signal is supplied for a period of time that is shorter, by a

Serial No. 10/762,502
Docket No. OSP-15514

predetermined amount of time, than a time for which the drive signal is supplied to the scan lines where the polarity of the write signal is inverted.

The present invention thereby provides a liquid crystal display which has low power consumption, and which prevents horizontal stripes from occurring without the circuitry becoming more complex.

II. THE PRIOR ART REJECTION

The Examiner alleges that Soichi anticipates the teaches the present invention defined by claims 3, 4, and 7-15. Applicant submits, however, that there are elements of the claimed invention which are neither taught nor suggested by Soichi, when is interpreted in view of the plain meaning of the language of the claims that the rationale in the rejection currently of record fails for the following reasons.

First, in the upper portion of page 3 of the Office Action, the Examiner alleges:

"Note that the phrase "constant horizontal scanning period" is overly broad and is interpreted by examiner as having a constant height or amplitude...."

In response, Applicants submit that the term is not at all "overly broad", since it states precisely a distinguishing characteristic of the present invention in which there is indeed a "constant horizontal scanning period." That is, Applicants submit that, to one of ordinary skill in the art, the scanning periods T1, T1, T2, T1 shown in Figure 2 of Soichi are clearly distinguished, since they clearly have at least two different scanning periods (e.g., T1, T2).

Second, relative to the Examiner's allegation that the phraseology "constant horizontal scanning period" is overly broad because it can mean "constant height or amplitude", Applicants submit that one of ordinary skill in the art simply would not agree

Serial No. 10/762,502
Docket No. OSP-15514

with the Examiner, since the phraseology specifically defines “period”, not “height” or “amplitude.”

That is, Applicants submit that the plain meaning of the claim language precludes the Examiner from expanding “period” to mean “height” or “amplitude.”

Third, relative to the Examiner’s position that Soichi teaches “... *constantly maintaining the same recurrent scanning periods every three scan lines, for example, T1T1T2, T1T1T2, ..., as in Fig. 2)*,” Applicants respectfully submit that such teaching in this reference is irrelevant, since this description is not what is being described by the plain meaning of the language of the independent claims.

That is, the claim language clearly describes “while maintaining a constant horizontal scanning period.” The scanning period sequence “T1T1T2” clearly teaches against maintaining a constant scanning period, since there are clearly two different periods, by the definition of this sequence, as would be interpreted by one of ordinary skill in the art.

Fourth, relative to the Examiner’s understood allegation that “... *the same recurrent scanning periods every three scan lines, for example, T1T1T2, T1T1T2, ..., as in Fig. 2)*....” is equivalent to “maintaining a constant horizontal scanning period”, Applicants submit that the Examiner’s interpretation adds additional wording that is not in the claim language.

Fifth, Applicants submit that the final limitation of the independent claims is likewise clearly not satisfied in Soichi. It is clear from Figure 2 of Soichi that the repetitive sequence T1T1T2 is identical in scanning period in each repetition. Therefore, the lines following the polarity inversion are not shorter, as required by the plain meaning of this final limitation.

Serial No. 10/762,502
Docket No. OSP-15514

As argued in the previous Amendment, Soichi is described beginning at line 15 on page 6 of the present Application and clearly differs from the present invention in that it adjusts the timing interval that defines the scan period of each line scan by using a pulse counter to determine that scan line periods during those scans in which polarity is inverted are lengthened.

Although the present invention may achieve a similar result to that of Soichi, it achieves this result by using a different principle. That is, in contrast to Soichi, the present invention does not change the timing interval for respective scan intervals.

Rather, the present invention clearly differs by maintaining a constant horizontal scanning period.

Hence, turning to the clear language of the claims, in Soichi, there is no teaching or suggestion of: "...a scan line drive circuit which supplies a drive signal to said scan lines and switches said switch elements ON and OFF, while maintaining a constant horizontal scanning period, so that, of the plurality of scan lines to which is supplied a write signal of a same polarity, in the following scan lines other than those scan lines where the polarity of said write signal is inverted, said drive signal is supplied for a period of time that is shorter, by a predetermined amount of time, than a time for which said drive signal is supplied to the scan lines where the polarity of said write signal is inverted", as required by claim 3.

The remaining independent claims have similar language.

Claims 4, 9, and 14 define the specific embodiment in which an output enable signal is derived that controls whether or not to supply the drive signal to the scan line. Applicant respectfully traverses that Soichi teaches or suggests such an output enable signal. The clock signal XYCLK that the Examiner points to is a clocking signal, not an enable signal.

Serial No. 10/762,502
Docket No. OSP-15514

Relative to the rejection for claims 8 and 13, Applicants submit that, to one of ordinary skill in the art, the description in paragraphs 8 and 23 do not mention pre-charging, since there is only the mention that the switching time is lengthened. Applicants submit that this concept is different from pre-charging.

Relative to the rejection for claim 11, Applicants submit that paragraphs 20 and 23 contain no reasonable description about difference in brightness between scanning lines.

Therefore, Applicant submits that there are elements of the claimed invention that are not taught or suggest by Soichi. Therefore, the Examiner is respectfully requested to withdraw this rejection.

III. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 3-4 and 7-15, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

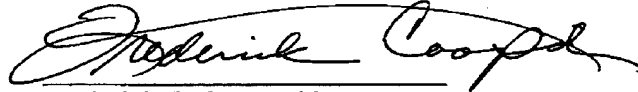
Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

Serial No. 10/762,502
Docket No. OSP-15514

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: 8/23/05



Frederick E. Cooperrider
Registration No. 36,769

McGinn & Gibb, PLLC
8321 Old Courthouse Road, Suite 200
Vienna, VA 22182-3817
(703) 761-4100
Customer No. 21254

CERTIFICATION OF TRANSMISSION

I certify that I transmitted via facsimile to (703) 872-9306 this Amendment under 37 CFR §1.116 to Examiner R. Osorio on June 23, 2005.



Frederick E. Cooperrider
Reg. No. 36,769